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ABSTRACT

To establish base line information on microcomputers and their use for K-12 schools in South Carolina, the State Office of Instructional Technology of the Department of Education conducted a survey of individual schools and school districts. Two different forms were used for the survey, one requiring the principal's signature, and one requiring the superintendent's signature. In all, 1,124 schools and 92 school districts were sent survey forms. Survey questions were designed to determine the need for computer assistance and training, types of software and languages utilized, and subject areas and instructional modes for which computers were being used. A total of 1,112 school and 92 district forms were received for a 98% and 100% response rate respectively. The survey showed that: (1) school district administrators and school principals agreed on the need to highlight classroom uses and teaching techniques as the top priority for computer services from the Department of Education; (2) district staff educators were rated as 40% computer literate, while certified school faculty were rated as 14% computer literate; (3) the combined total of school district and school expenditures for computer hardware and software from 1979-84 was $9,525,561, of which 89% was expended for hardware and 11% for software; and (4) the most used software in both district offices and schools was commercially written. Survey questions and findings, including data tables, are also included. (JB)

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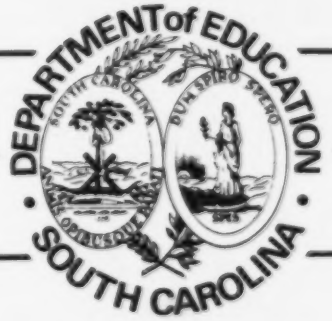
Report on

1983 - 84

Statewide Computer Survey

South Carolina

Department of Education



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1983 - 84 STATEWIDE COMPUTER SURVEY

FINAL REPORT

South Carolina Department of Education

1983 - 84 STATEWIDE COMPUTER SURVEY RESULTS

FINAL REPORT

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September 1984

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FINAL REPORT
1983-84 STATEWIDE COMPUTER SURVEY

INTRODUCTION

On September 9, 1983, Dr. Charlie G. Williams, State Superintendent of Education briefed the State Board of Education on the assignment of the responsibility for instructional use of computers to the Office of Instructional Technology of the Department. In order to establish base line information on microcomputers and their use for K-12 schools, the office conducted the first statewide computer survey between December 5 and January 21, 1984.

An interim report on tne school portion of this survey was distributed to educators in May 1984. This report presents the results of the district and school surveys and a comparison, where appropriate, of the results of the two. The report is based on data collected in December 1983 through January 1984. Because of the speed by which districts and schools are acquiring computers and software, some of the specific figures are dated. However, the equipment trends and the summaries of the opinion-type responses will very likely continue to provide useful information for a more extended period.

SURVEY DESIGN

All 1,124 schools and 92 school districts were sent survey forms on November 28, 1983. Two different forms were used for the survey. A School Survey Form requiring the principal's signature and a District Form for each superintendent to sign were used. While principals and superintendents were asked to review and sign their forms, input for the forms was provided by such personnel as media specialists, teachers who were leaders in the school use of computers and by district staff members such as computer coordinators. A twenty-three question school form and a nineteen question district form were extensively field tested among principals, district staff, superintendents and Department of Education staff prior to final revision and distribution.

Survey questions were designed to determine the need for computer assistance and training, types and quantities of microcomputers, funds expended for hardware and software, use of software and languages, subject areas and instructional modes for which computers are being used.

RESPONSE RATE

A total of 1,112 school and 92 district forms were received for a 98% school response rate and a 100% district response rate. Due to late returns, the survey period was extended from December 5, 1983 to January 31, 1984.

SURVEY HIGHLIGHTS

District Office and School Survey Comparison

The survey shows that school district administrators and school principals agree on the need to highlight classroom uses and teaching techniques as the top priority for computer services from The Department of Education.

In terms of computer literacy, district staff educators are rated as 40 percent while school faculties are rated 14 percent computer literate.

Administrators at the district and the school levels are in agreement that classroom applications is the top staff development program topic that should be presented over the state's television network.

The combined total of school district and school expenditures for computer hardware and software from 1979-84 was $9,525,561 of which 89 percent was expended for hardware and 11 percent for software.

The most used software for both district offices and schools is commercially-written.

District Office Survey

A total of 323 computers comprising 12 brands and 32 models are located in 73 school district offices. The predominating computers are Apple: 170 (53%), Radio Shack: 80 (25%), IBM: 26 (8%) and Texas Instruments: 26 (8%). There are more Apple IIE computers, 142 or 44% of all computers, in district offices than any other brand and model.

Forty-five school districts have computers out of service from one to five percent of the time. Thirty-three districts have their computers covered with a manufacturer's or vendor's service contract while four districts provide a repair service.

District discretionary funds comprise 58% of the total district funds spent for computer hardware and 71% of the money spent on software. Five districts use computers provided under a lease with option to buy arrangement. Eighteen districts have access to off-site computers with 56 terminals being used for this purpose.

Computers at district offices are used extensively for office/administrative purposes by 34 districts, as equipment for computer labs and training by 11 districts, and for equipment loans to schools by 5 districts.

Fifteen districts would welcome a review of their program by other educators and 19 districts have a plan for computer education.

School Survey

There is a total of 4,054 computers in 749 schools with an estimated 12 brands and 26 models having educational applications. The computer to student ratio is 149. The number of computers in elementary schools is 1,928, or 48%, compared with 2,122 computers, or 52% in secondary schools. The predominating computers in elementary schools are Apple: 812; Texas Instruments: 386 and Radio Shack: 253. The primary computers in secondary schools are Apple: 1,017, Radio Shack: 653 and Commodore: 155.

School Survey Highlights (Continued)

One hundred eighty-nine schools have only one computer.

Forty-one percent of the schools with computers, or 309 schools, have at least one to two units. Overall, 67% of all schools have at least one computer. Greenville County has the most computers, 340, followed by Charleston with 262, Richland District I with 206 and Aiken with 200. The Apple IIE is the prevalent computer with 1,362 units.

District discretionary funds at the school level are the primary source (32%) of computer hardware; and federal monies the main source (32%) for software.

Three hundred sixty-five schools projected making purchases of computers in the near future. Sixty-one percent of these anticipate purchasing Apple brand computers, 12% Radio Shack and 10% Commodore. Forty-six percent of the brands involved in future purchases are projected to be Apple and 9% are Radio Shack.

The bulk of future purchases of computers will go for classroom instruction (61%), followed by administrative uses (28%), library (7%), computer managed instruction (3%) and guidance (1%).

One hundred seventy-one schools are not projecting making computer purchases because they have no plans or are undecided (123 schools), school plans are dependent on district plans (41 schools) or because they have decided on no additional purchases for 1984-85 (7 schools).

Of the schools having access to off-site computers, the primary locations for these are in district offices (70 schools), commercial or industrial firms (33 schools) and South Carolina Occupational Information System (SCOIS) computers (28 schools).

Twenty-eight percent of the schools report having a manufacturer's or vendor's service contract. Sixty-two percent report having experienced no maintenance problems with computers.

There are 16 schools which have computers provided under a non-purchase arrangement and 194 that have access with 201 terminals to off-site computers.

Commercially-written software is used more extensively (68%), than teacher-written (16%) or public domain (10%). The Basic computer language is used most (69%), followed by Logo (12%).

Five hundred fifty-seven schools indicate having some students receiving regular computer contact (at least 15 minutes weekly).

The subject areas having the greatest amount of computer use are math, language arts and reading. The instructional applications having the greatest computer use are computer literacy, enrichment and basic skills.

Fifty-two schools indicate making extensive use of computers for computer managed instruction. One hundred seven schools say they would welcome a review of their computer program and 117 schools use volunteers to assist in computer instruction.

SURVEY FINDINGS

District and School Surveys

1. Indicate the relative importance of services in computer use to your district which you think should be provided by or in which the State Department of Education should be involved.

School district and school respondents are in agreement that the two top priority computer services from The Department of Education are to highlight classroom uses and teaching techniques (#1) and to provide information (#2). The districts give a higher priority to the State Department of Education providing a software reference library and serving as a clearing-house for software evaluation and information than the schools, which in turn felt that providing workshops and conferences and encouraging college computer courses are more important.

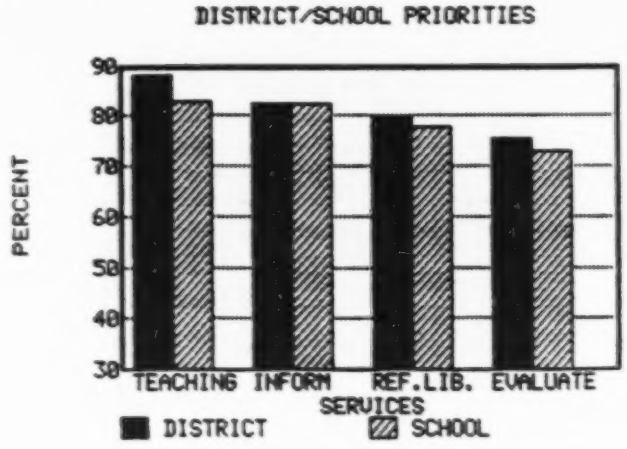
Table 1. Comparison between district and school surveys in priority of need for computer services from S. C. Department of Education.

Services	District Survey: Priority Rating/ Ranking	School Survey: Priority Rating Ranking
A. Highlight classroom uses/ teaching techniques	*(88.4%), #1	*(82.9%), #1
B. Provide information	(82.6%), #2	(82.8%), #2
C. Provide software reference library	(79.7%), #3	(77.7%), #5
D. Serve as clearing-house for software evaluation, information	(75.4%), #4	(73.1%), #6
E. Provide workshops/conferences	(72.9%), #5	(82.4%), #3
F. Assist with planning	(65.2%), #6	(57.5%), #8
G. Encourage college computer courses	(56.5%), #7	(78.7%), #4
H. Distribute newsletter on computers in education	(56.5%), #8	(65.8%), #7
I. Central point of contact for hardware vendors	(47.8%), #9	(45.4%), #9
J. Purchasing agent for computer supplies	(40.6%), #10	(43.9%), #11
K. Serve as state representative for software evaluation consortia	(39.4%), #11	(45.4%), #10

* (Percent of responses indicating extensive need.)

Graphs: Comparison between district and school surveys in priority of need for computer services from the South Carolina Department of Education.

1.



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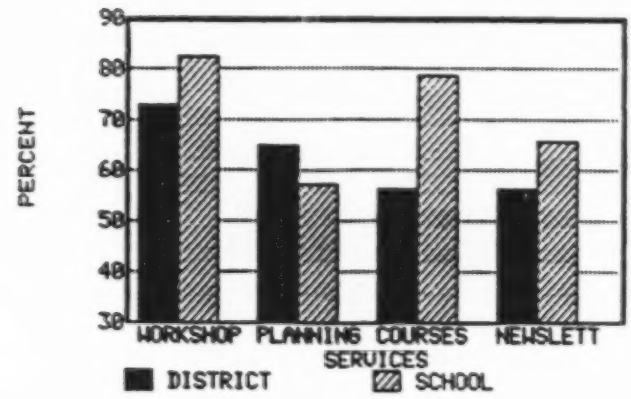

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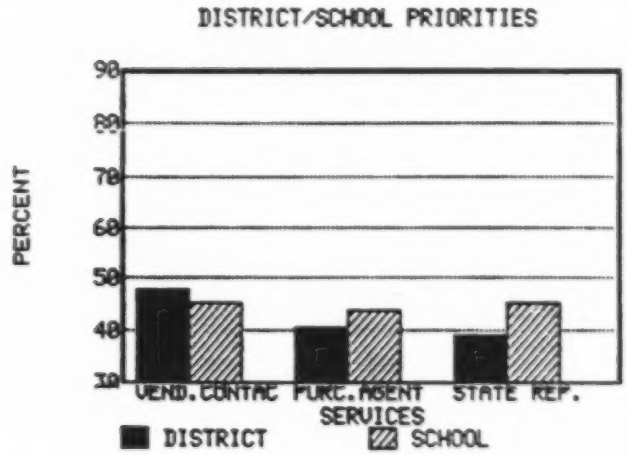


District and School Surveys

2. Indicate the number of certified educators at the school district/school/faculty level.

Data for this question is used in computing computer literacy summaries for Question 3 and will not be reported on directly.

3. How many personnel do you consider to be: Computer literate? In need of computer literacy training?

Degree of computer literacy among district staff and school faculties:

The five districts having the greatest proportion of district office professional staff that are computer literate are Greenwood 51 (100%), Oconee (100%), Greenwood 52 (75%), Spartanburg 5 (75%), and York 3 (68%). The top districts in terms of having the highest proportion of certified school faculty considered computer literate are Lexington 5 (58%), Chester (49%), Barnwell 19 (47%), Bamberg (46%) and Dillon (42%). Statewide, 14 percent of all school instructional staff is rated as being computer literate compared to 40 percent of professional staff members at district offices.

Table 2. Percent of district staff that is computer literate by district:

	Top Ten Districts	Percent of Total Staff	No. Staff Members Computer Literate
1.	Greenwood 51	100%	2
2.	Oconee	100%	1
3.	Greenwood 52	75%	3
4.	Spartanburg 5	75%	6
5.	York 3	68%	13
6.	Barnwell 19	67%	10
7.	Marion 3	67%	2
8.	Dillon 1	50%	2
9.	Richland 2	45%	300
10.	Greenwood 50	41%	7

Table 3. Percent of school faculty that is computer literate by district:

	Top Five Districts	% of Total Faculty	No. of Teachers
1.	Lexington 5	58.2%	336
2.	Chester	48.6%	226
3.	Barnwell 19	46.7%	36
4.	Bamberg 2	46.4%	26
5.	Dillon 3	42.3%	30

Table 4. Comparison between district personnel and teachers statewide in percent of total personnel which are computer literate:

	District Staff Members Statewide	Teachers Statewide
Total computer literate	691	5,211
Percent of total personnel	40%	14%

District and School Surveys

4. Rate the kind of programming related to computers that ITV/ETV and Radio should broadcast for educators and/or the public.

Televised staff development programs are a valuable source of training and informational resources on computers for administrators and instructional staff. This question was designed to obtain guidance for the State Department of Education from local educators for future television staff development broadcast offerings.

School district staff and school principals rated classroom applications as the top staff development computer-related program needed. District personnel rated programs on selecting hardware and software as the second top priority and programs on computer managed instruction as the third priority. Schools rated as number two computer literacy/awareness and as number three, planning for computer use.

Table 5.

A. Recommended televised programs on computers for educators and the public:

Comparison between district and school surveys:	District Survey Priority Rating/ Ranking	School Survey Priority Rating/ Ranking
1. Classroom applications	*(88.1%), #1	*(88.8%), #1
2. Selecting hardware/software	(87.6%), #2	(81.2%), #4
3. Computer managed instruction	(80.3%), #3	(41.7%), #8
4. Computer literacy/awareness	(78.8%), #4	(82.8%), #2
5. Exemplary uses of computers	(78.8%), #5	(75.8%), #5
6. Planning for Computer Use	(77.6%), #6	(82.4%), #3
7. Information exchange	(73.1%), #7	(70.2%), #7
8. Trends in hardware/software	(67.2%), #8	(70.6%), #6
9. Computer Programming	(47.8%), #9	(63.0%), #9

* (Percent of responses indicating extensive need.)

B. Recommended televised programs on computers for K-12 students:

Comparison between district and school surveys

	District Survey Priority Rating/ Ranking	School Survey Priority Rating/ Ranking
1. Computer literacy/awareness	*(80.6%), #1	*(87.3%), #1
2. Computer programming	(47.8%), #2	(54.3%), #2

* (Percent of responses indicating extensive need.)

District and School Surveys

5. Provide the following information on computers presently located at your district-level offices or at your school or for which funds have been reserved or which are now on order:

There are a total of 4,377 computers in the state of which 323 were in district offices and 4,054 in schools. Seventy-nine percent, or 73 districts, and 67%, or 749 schools, have computers. Forty-seven percent, or 1,928*, of the school computers are in elementary schools while 52%, or 2,122*, are in secondary schools. There is a much heavier concentration of computers in secondary schools than in elementary schools - 52% for secondary to 47% for elementary - since 70% of the schools are elementary and 30% are secondary.

Individual schools have a greater diversity of computer brands - 22, than do district offices - 12. There are also 48 different computer models located in schools versus 32 for district offices. There are as many as 13 to 14 different computer models in the schools of some districts - creating significant challenges for teacher training and software compatibility. Table 10 on page 10 illustrates the diversity and quantities of computers in the schools of seven of the larger districts.

The predominant brands in elementary schools are Apple, 812 or 42% of total elementary computers, Texas Instruments, 386 or 20% and Radio Shack with 253 or 13% of elementary computers.

For secondary schools, Apple has 1,017 computers or 48% of the total computers, Radio Shack 653 or 31% and Texas Instruments 96 computers or 7%.

Of the schools with computers, 25% have only one computer and sixteen percent have two computers. Combining these two indicates that 41% of these schools, or 309, have only one to two computers. The data in Table 9 further shows that only 140 schools have as many as 10 computers. The average district office with computers has 4.4 units. For those schools with computers, the average number of computers per school is 5.4 units. This data indicates that computers are thinly spread throughout the schools of the state.

Table 6. Total Computers by District or School Location

	District /School Total	District/ School With Computers	Percent With Computers	Total Computers	Percent of Computers In Schools	Average Computer Per District/School With Computers
District Office	92	73	79.35%	323	--	4.4
Elementary Schools	787	--	--	1,928	47	2.4
Secondary Schools	337	--	--	2,122	52	6.3
K-12 Schools	1,124	749	67.35%	4,054*	--	5.4

* Elementary and secondary computers do not exactly add up to the total computers identified due to the sorting criteria for elementary and secondary schools.

Table 7. Computer Brands and Models

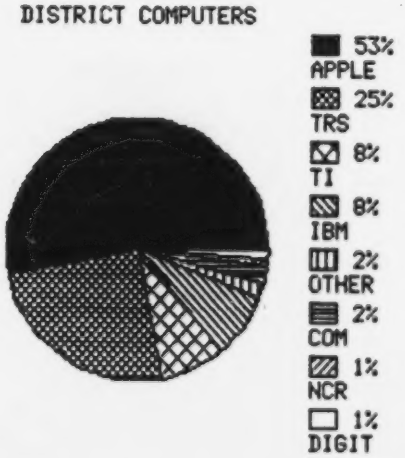
	Computer Brands	Computer Models	Educational Brands	Computer Models
District Offices	12	32	--	--
K-12 Schools	22	48	12	26

Table 8. Computers by Brand

Brand	Quantity Offices	Quantity Schools	Percent of District Office Totals	Percent of School Totals
Apple	170	1,833	53	45
Radio Shack	80	906	25	22
IBM	26	113	8	3
Texas Instruments	26	482	8	12
Commodore	8	343	2	9
Computer Curriculum Corp.	--	96	--	2
Atari	--	174	--	4
Digital	4	--	1	-
NCR	4	--	1	-
Others	5	107	2	3
	323	4,054		
Total Computers:	4,377		100%	100%

Graphic: Computers by Brand

1.



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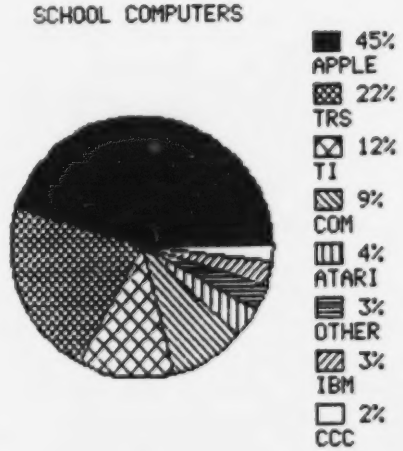


Table 9. Frequency of Computer Units in K-12 Schools

Number of Computers in Schools	Number of Schools With Computers	Percent of Schools With Computers
1	189	25
2	120	16
3	73	10
4	61	8
5	51	7
6	36	5
7	42	6
8	21	3
9	16	2
10	28	4
11	19	3
12	19	3
13	7	1
14	8	1
15	13	2
16	9	1
17	5	1
18	5	1
19	3	0
20	3	0
21	2	0
22	4	1
23	4	1
24	1	0
25	4	1
26	1	0
27	1	0
28	1	0
34	1	0
35	1	0
38	1	0
	749	102%

Number of schools with 10 or more computers: 140

Graphic:

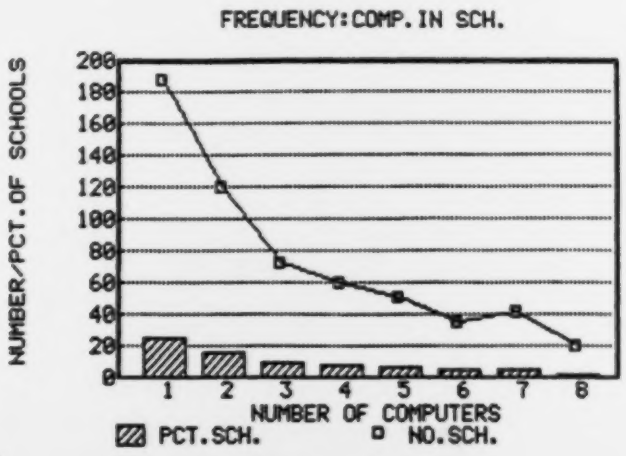


Table 10. SEVEN SCHOOL DISTRICTS HAVING THE HIGHEST NUMBER OF COMPUTERS IN THEIR SCHOOLS

AIKEN I	
Apple II	14
Apple IIE	94
Atari 800XL	1
Commodore Vic 20	3
Digital Dec Writer	1
TI-99/4a	60
TRS-80 Model I	3
TRS-80 Model II	I
TRS-80 Model III	19
TRS-80 Model IV	4
Totals	200

BERKELEY I	
Apple II	15
Apple II Plus	16
Apple II E	53
Commodore Vic 20	7
Commodore 64	25
Franklin Ace 1000	2
Terak 8510/A	1
TRS-80 Model I	1
TRS-80 Model III	1
TRS-80 Model IV	1
	122

CHARLESTON I	
Apple II	5
Apple II Plus	33
Apple IIE	81
CCC	11
CCC SLS-1	84
CCC 17	1
Commodore Vic 20	1
Digital Dec Writer	1
Sony SMC-70	12
TI-99/4A	11
TRS-80 Model I	3
TRS-80 Model II	4
TRS-80 Model III	15
	262

GREENVILLE I	
Apple II	20
Apple II Plus	45
Apple II E	46
Atari 1200XL	3
Atari 400	79
Atari 600XL	19
Atari 800XL	38
Commodore 64	22
Digital Dec Writer	1
IBM-PC	18
TI-99/4A	9
TRS-80 Color	20
TRS-80 Model II	18
TRS-80 Model III	2
Totals	340

HORRY I	
Apple I	2
Apple II	1
Apple II Plus	25
Apple II E	151
Commodore Vic 20	10
Commodore 64	2
TRS-80 Model II	1
	192

RICHLAND I	
Apple II	8
Apple II Plus	2
Apple II E	12
Commodore Pet	20
Commodore Vic 20	8
IBM PC	2
Mattel TLC	1
TI-99/4A	34
TRS-80 Model I	9
TRS-80 Model II	32
TRS-80 Model III	72
TRS-80 Model IV	6
	206

YORK III	
Apple IIE	137
Atari 400	2
Monroe EC 8000	1
Monroe OC 8820	12
TRS-80 Model II	6
TRS-80 Model III	2
Total	160

District Survey

5 b, c, and 7. Total number of computers which are not in working order, estimated percent of time computers have been out of service, and the degree to which computers have had maintenance problems this year.

District Office Survey

Forty-five school districts reported that their district office computers had been out-of-service 1% to 5% of the time and two districts reported their computers out of service from 6% to 10% of the time. Only one district office computer was reported not in working order. Twenty-seven districts of 51 responding reported having no maintenance problems this year with district office computers.

Table 11. Estimate of average percent of time district office computers have been out of service:

	Percent of Time Out of Service	Number of School Districts
(1)	1 - 5%	45
(2)	6 -10%	2
(3)	Over 10%	0

Table 12. Degree to which district office computers have had maintenance problems this year:

	Number of Districts
a. No problems	27
b. Few Problems	24
c. Many problems	0
d. No response	21

School Survey

Of the 703 schools reporting on maintenance problems, 439 schools (62%) had no problems and 249 (35%) had few problems and 15 schools (2%) reported many problems.

Table 13. Extent of maintenance problems:

	Number of Schools	Percent of Schools Reporting
1. No problems	439	62%
2. Few problems	249	35%
3. Many problems	15	2%
	703	

6. Indicate the maintenance arrangement used for your computer equipment.

Thirty-three school districts report having a manufacturer or vendor service contract on district office computers. Computer equipment located in 214 schools is covered by this type of service agreement. Four districts provide a repair service for their office computers while 123 schools have access to a district repair service.

Table 14. Maintenance Arrangement for Schools' Computer Equipment:

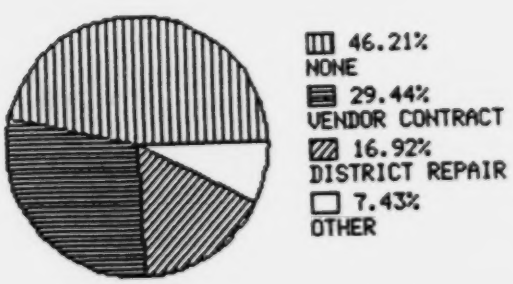
	Number of Responses	Percent of Total Reporting
A. Schools having a manufacturer/ vendor service contract	214	29.44%
B. Schools with district repair service	123	16.92%
C. Schools with no repair contract or district repair service	336	46.22%
D. Other maintenance arrangements	54	7.43%

Table 15. Maintenance Arrangements for District Offices' Computer Equipment:

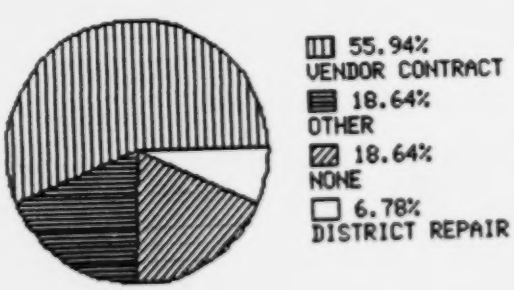
	Number of Responses	Percent of Total Reporting
A. Districts having a manufacturer/ vendor service contract	33	55.93%
B. Districts with repair service	4	6.78%
C. Districts with other maintenance arrangements	11	18.64%
D. Districts with no repair contract or district repair service	11	18.64%

Charts: School and District Maintenance Modes and Percent Use

SCHOOL MAINTENANCE MODES



DISTRICT MAINTENANCE MODES



District and School Surveys

8. Please estimate the cummulative total amount and sources of funds expended or committed to date for purchasing computer hardware and software (From year of initial purchases).

The estimated total amount of funds expended for computer hardware and software by district offices and schools from 1979-1984 was $9,525,561 of which 89 percent was expended for hardware and 11 percent for software. The main source of funds for computer hardware in school district offices and schools was discretionary funds. Around $969,464 of district discretionary funds was expended for hardware for district offices and $2,173,153 of these funds for computer equipment located in schools.

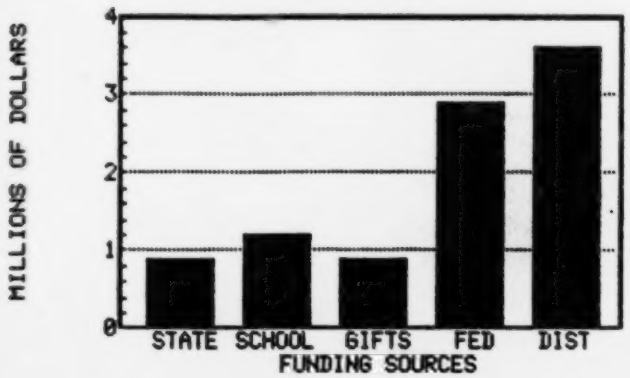
For computer software in district offices, 71% of the funds for this purpose, or $260,242, also came from district discretionary funds. Computer software in schools was funded to the greatest extent (32%) by federal funds in the amount of $224,460.

Table 16. Computer Hardware and Software Purchases by Sources for School District Offices and Schools (1979-84):

Hardware and Software Funding Sources	Total Funds	Percent of Total Funds
Federal	$2,917,636	30.63%
State	896,093	9.41%
District Discretionary	3,553,099	37.30%
School Funds	1,200,228	12.60%
Grants/Gifts	939,515	9.86%
	$9,525,561	

Charts:

1. DIST/SCH.HDWR/SOFT.BOUGHT



2. PCT TOTAL FUNDS HWRE/SFWRE

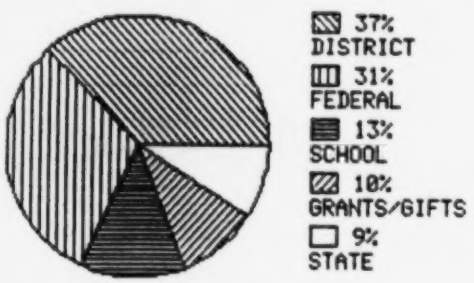


Table 17. Use of Funds for Computer Hardware and Software Purchases by School Districts and Schools (1979-84):

Hardware	$8,454,148	88.75%
Software	1,071,413	11.25%
	$9,525,561	

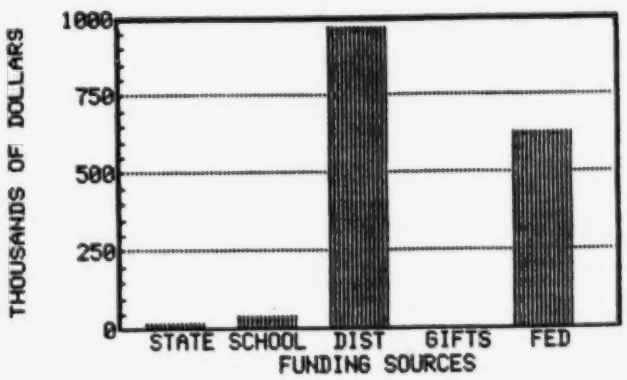
Table 18. 1979-84 Funding Sources for Computer Hardware and Software Used at School District Offices:

A.

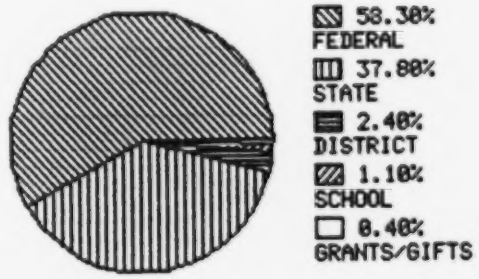
Hardware Funding Source	Hardware Funds	Percent of Total Hardware Funds
Federal	$ 628,710	37.79%
State	18,308	1.10%
District Discretionary	969,464	58.28%
School Funds	40,000	2.40%
Gifts/Grants	7,100	0.43%
	$1,663,582	

Charts:

1. DISTRICT HARDWARE BOUGHT



2. DISTRICT PCT HRDWARE FUNDS

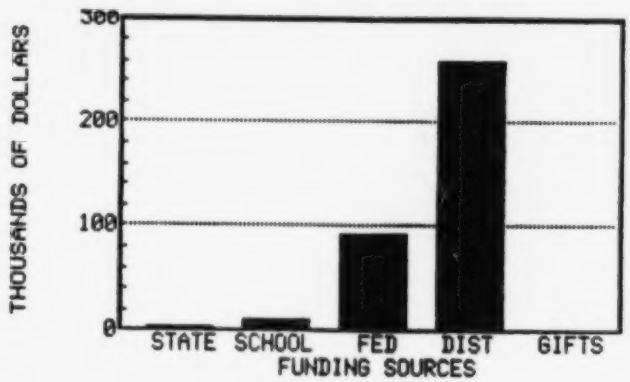


B.

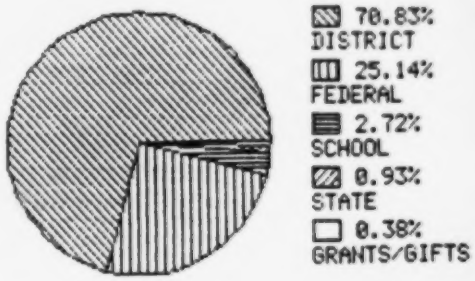
Software Funding Source	Software Funds	Percent of Total Software Funds
Federal	$ 92,374	25.14%
State	3,404	0.93%
District Discretionary	260,242	70.83%
School Funds	10,000	2.72%
Gifts/Grants	1,400	0.38%
	$ 367,420	

Charts:

1. DISTRICT SOFTWARE FUNDS



2. DISTRICT PCT SFTWARE FUNDS

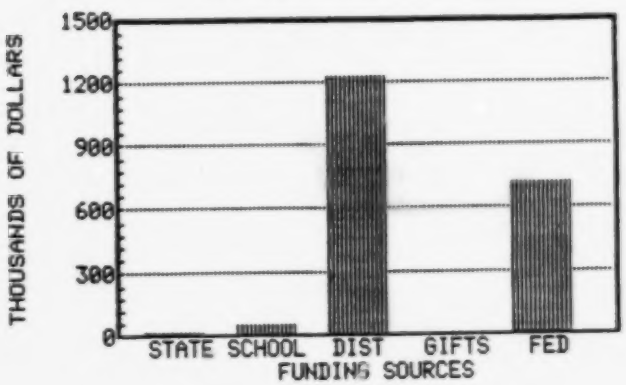


C.

Hardware and Software Funding Source	Total Funds	Percent of Total Funds
Federal	$ 721,084	35.50%
State	21,712	1.07%
District Discretionary	1,229,706	60.55%
School Funds	50,000	2.46%
Gifts/Grants	8,500	0.42%
	$2,031,002	

Charts:

1. DISTRICT HDWR/SOFT.BOUGHT



2. DIST.PCT.HDWR/SOFT BOUGHT

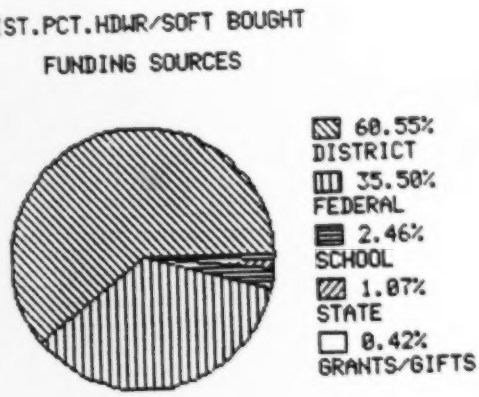
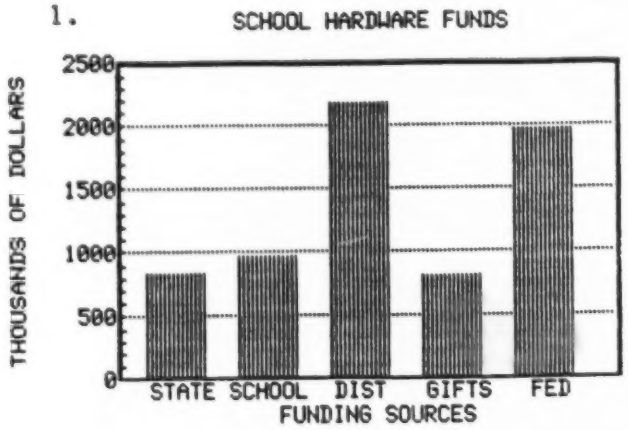


Table 19. 1979-84 Funding Sources for Computer Hardware and Software in Schools:

Hardware Funding Source	Funds	Percent of Total Hardware Funds
Federal	$1,972,092	29.04%
State	833,708	12.28%
District Discretionary	2,173,153	32.00%
School Funds	973,480	14.34%
Grants/Gifts	824,933	12.15%
Other	13,200	.19
	$6,790,566	

Charts:

1.



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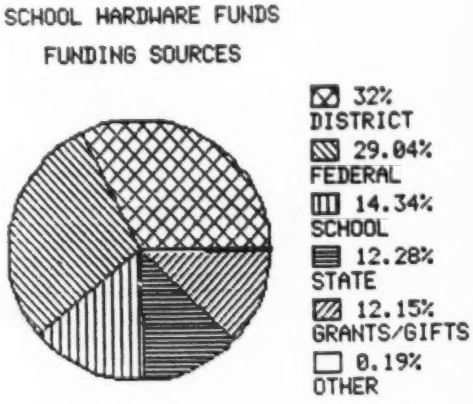
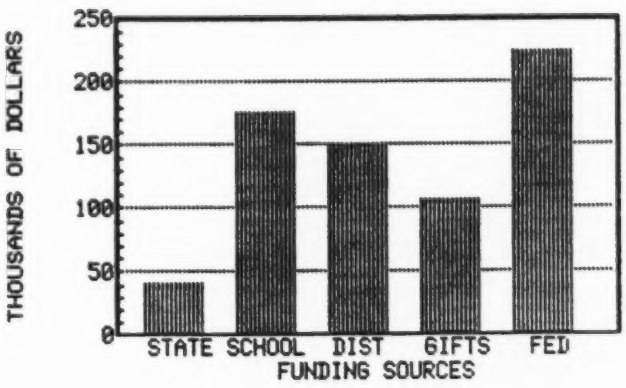


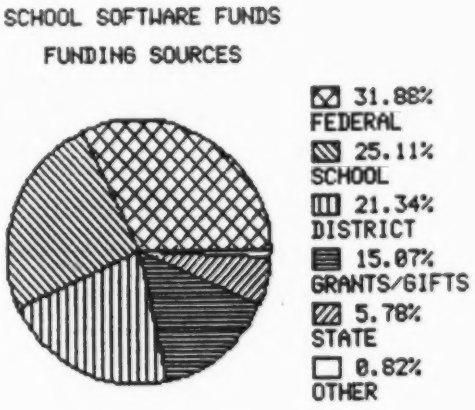
Software Funding Source	Funds	Percent of Total Software Funds
Federal	$ 224,460	31.88
State	40,673	5.78
District Discretionary	150,240	21.34
School Funds	176,748	25.11%
Grants/Gifts	106,082	15.07%
Other	5,790	.82%
	$ 703,993	

Charts:

1.



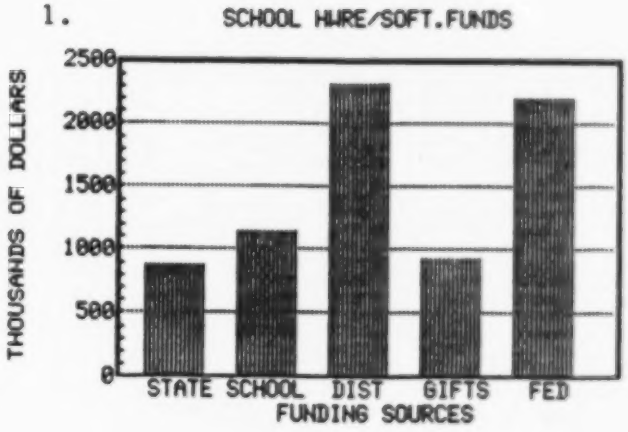
2.



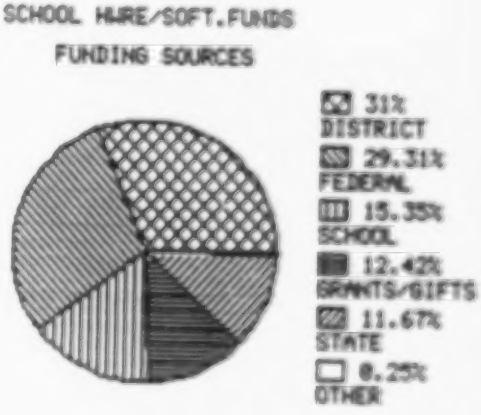
Hardware and Software Funding Source	Funds	Percent of Total Hardware Funds
Federal	$2,196,552	29.31%
State	874,381	11.67%
District Discretionary	2,323,393	31.00%
School Funds	1,150,228	15.35%
Grants/Gifts	931,015	12.42%
Other	18,990	.25%
	$7,494,559	

Charts:

1.



2.



School Survey

9. Briefly describe your school's plans for future purchase of computers for instructional or administrative uses.

A total of 365 schools projected making purchases of computers as part of their plans for computer education. Sixty-one percent of these schools projected buying the Apple brand, 12 percent projected Radio Shack, 10 percent plan to purchase Commodore and 8 percent will buy IBM computers. Schools projected purchasing seven different brands of computers. From these, the percent of total computers purchased was Apple (46%), Radio Shack (9%), Commodore (7%) and IBM (6%).

Applications/placement planned for future purchases:

One-hundred forty-six schools indicated that new computers purchased would be used for classroom instruction, 67 schools will use them for administrative uses, 16 schools will use them for the library/media centers, 8 schools for computer managed instruction and two schools will use new computers for guidance.

Reasons given for schools not projecting future computer purchases:

Among the reasons given by schools for not making a projection on computer purchases were the following:

- Have no plans or undecided — 123 schools
- School plans are dependent on district plans — 41 schools
- Have decided on making no additional purchases for 1984-85 — 7 schools

District and School Surveys

10. Indicate your use of non-purchase methods to supply computers.

Six school districts and 87 schools indicated having computers procured under a non-purchase arrangement.

Table 20. Computers provided under non-purchase arrangements:

	Number of District Offices	Number of Schools
A. Lease with option to buy	5	16
B. Rental	1	8
C. District Loan	-	63
	6	87

District and School Surveys

1. Access to off-site computers.

Eighteen school district administrative offices and 169 schools have access to off-site computers. This represents 27% of the 66 school districts and 20% of the 947 schools responding to this question. The primary locations of the off-site computers for schools are district offices (70 schools) and commercial/industrial firms (33 schools).

Table 21. Schools having access to off-site computers:

LOCATIONS OF OFF-SITE COMPUTERS

Location	Number of Schools
District office	70
Commercial/industrial firm	33
SCOIS Computer at district, school	28
Other school	17
College/University/TEC	10
County government office	9
Appalachian Computer Commission	1
Greenville County Health Department	1
	169

District and School Surveys

12. Number of terminals connected to off-site computers:

Fifty-six terminals in school district administrative offices and 197 in schools are connected to off-site computers.

District and School Surveys

13. Frequency of use of computer software

Both school district administrative offices and schools use commercially-written software to the greatest extent. The second most used software source for school districts is programs written by school personnel; for schools, the second most used software is teacher written.

Table 22. Most Used Software

	Percent of Responses Indicating Extensive Use	
	District Survey % and Ranking	School Survey % and Ranking
Commercially-written	*(78.2%), #1	*(67.9%), #1
School personnel written	(30.8%), #2	(7.5%), #5
Other sources	(27.3%), #3	(14.3%), #3
Public domain	(10.2%), #4	(10.2%), #4
Teacher written	(5.7%), #5	(15.9%), #2
Student written	(1.9%), #6	(7.0%), #6

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14. School survey:

Indicate the extent to which various computer languages are used at your school for instruction in programming.

Basic and Logo are the two principal programming languages used in K-12 schools. Sixty-nine percent of the responses to this question indicated extensive use of Basic while 12 percent say Logo was used extensively.

Table 23. Use of Computer Languages

	Percent of Responses Indicating Extensive Use	Weighted Scale Value of Responses: 1 Not Used - 5 Most Used
Basic	(68.8%)	3.9/5.0
Logo	(12.4%)	1.7/5.0
Cobol	(1.7%)	1.2/5.0
Pascal	(1.9%)	1.2/5.0
Pilot	(1.0%)	1.2/5.0
Fortran	(1.3%)	1.1/5.0

District Survey:

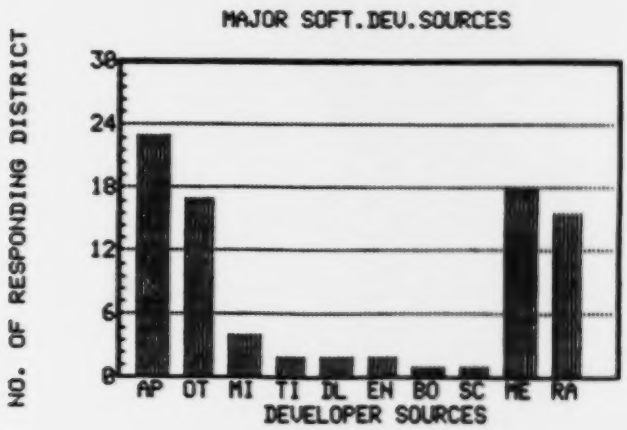
14. Indicate the major sources of your district-level software purchases.

Apple and MECC (Minnesota Educational Computing Consortium) and "other developers" are the key software developer sources for school district offices.

Table 24. Major Software Developer Sources

	Number of Responses	Percent of Total Responses
Apple Computer	23	27.06%
MECC	18	21.18%
Other Developers	17	20.00%
Radio Shack	15	17.65%
Milliken Publishing	4	4.71%
Texas Instruments	2	2.35%
Developmental Learning Materials (DLM)	2	2.35%
Encyclopedia Britannica	2	2.35%
Borg-Warner	1	1.18%
Scott-Foresman	1	1.18%
	85	

Chart: Major Software Developer Sources: District Survey



Key:

AP	Apple Computer
OT	Other Developers
MI	Milliken Publishing
TI	Texas Instruments
DL	Developmental Learning Materials (DLM)
EN	Encyclopedia Britannica
BO	Borg-Warner
SC	Scott-Foresman
ME	MECC
RA	Radio Shack

School Survey

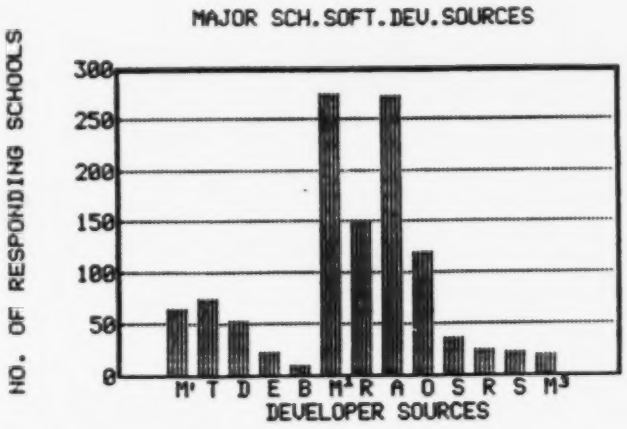
15. Indicate the major sources of your school's software purchases.

For schools, MECC and Apple were indicated as the top software developer sources. The top ranking major software suppliers included retail stores and "other suppliers."

Table 25. Major Software Developer Sources

		Number of Responses	Percent of Total Responses
1.	MECC	275	*24.0%
2.	Apple Computer	272	23.8%
3.	"Other" Developers	121	10.6%
4.	Radio Shack	149	13.0%
5.	Texas Instruments	74	6.4%
6.	Milliken Publishing	65	5.7%
7.	Developmental Learning Materials	54	4.7%
8.	Science Research	36	3.1%
9.	Random House	24	2.1%
10.	Scotts, Foresman	23	2.0%
11.	Brittanica	22	1.9%
12.	Milton Bradley	20	1.7%
13.	Borg-Warner	10	.9%
		1,145	

Chart:



Key:

M^1	Milliken Publishing
T	Texas Instruments
D	Developmental Learning Materials
E	Brittanica
B	Borg-Warner
M^2	MECC
R	Radio Shack
A	Apple Computer
O	"Other" Developers
S	Science Research
R	Random House
S	Scott-Foresman
M^3	Milton Bradley

Table 26. Major Software Suppliers

	Number of Responses	Percent of Total Responses
1. Retail Stores	166	34.7%
2. "Other" Suppliers	117	24.4%
3. Hart	82	17.1%
4. Scholastic, Inc.	69	14.4%
5. Society Visual Education	32	6.7%
6. Hartman	7	1.4%
7. Tarmac, Inc.	5	1.0%
	478	

District Survey:

15. Indicate the extent to which computers at the district level are used.

School district administrative offices use computers most extensively (68%) for office/administrative purposes, for undefined "other uses" (56%), labs and training purposes (24%) and for equipment loans to schools (11%). (Some districts indicated multiple uses of their computers, therefore the percentages of use do not add to 100 percent.)

Table 27. Uses of Computers Located at District Offices

	Number of Districts	Percent of Responses for Question Indicating Extensive Use
1. Office/Administrative purposes	34	68.0%
2. Labs/Training	11	23.9%
3. Computers loaned to schools	5	11.4%
4. "Other" uses	5	55.6%

School Survey:

16. Indicate the approximate number of students in your school who have direct contact with computers as a part of their instructional program. (Regular contact: Use computers at least 15 minutes per week).

Five hundred sixty-two schools have some students with regular computer contact, which was defined as at least 15 minutes per week on the computer.

Table 28. Number of Schools Having Students with Regular Computer Contact:

1-50	Students:	213 Schools	(38.2%)
51-100	Students:	136 Schools	(24.4%)
101-150	Students:	66 Schools	(11.8%)
151-200	Students:	39 Schools	(7.0%)
201-250	Students:	18 Schools	(3.2%)
251+	Students:	90 Schools	(15.3%)
		562	

School Survey:

17. Extent of use of computers for various subject areas.

Mathematics, Language Arts and Reading are the subject areas for which computers are most used for instruction. About half (50.3%) of responding schools use computers extensively for math, 32 percent use them extensively for Language Arts and 30 percent extensively for reading. Regarding the number of schools making any significant use at all of computers, 466 use them for Mathematics, 401 for Language Arts, 263 for Reading and 203 for Science.

Table 29. Extent of Use of Computers for Various Subject Areas

Subject Area	Number Of Schools Responding	Percent of Responding Schools Making Extensive Use	Number Schools Making Extensive Use of Computers for Subject Area	Weighted Scale Value of Responses: 1 Not - 5 Most Used Used
Mathematics	543	(50.3%)	273	3.4/5.0
Language Arts	436	(31.8%)	139	2.8/5.0
Reading	401	(30.2%)	121	2.6/5.0
VOED-Computer Science	285	(24.9%)	71	2.2/5.0
VOED-Business Ed.	316	(24.3%)	77	2.1/5.0
Social Studies	346	(17.7%)	61	2.1/5.0
Science	364	(15.9%)	58	2.1/5.0
Environmental Ed.	270	(2.2%)	6	1.2/5.0
Music	281	(2.1%)	6	1.3/5.0
Health	278	(1.1%)	3	1.3/5.0
Art	280	(.8%)	2	1.2/5.0

Subject Area	Number of Schools Making Any Significant Use of Computers In Subject Area
Mathematics	466
Language Arts	401
Reading	263
Science	203
Social Studies	185
VOED: Business Education	120
VOED: Computer Science	115
Health	54
Music	50
Art	34
Environmental Education	33

District Survey:

18. Does your district have a plan for computer education?

Out of 71 school districts responding to this question, 19, or 26.8 percent, report having plans prepared for use of computers.

School Survey:

18. Extent of use of computers for instruction.

Computer literacy is the top instructional use of computers in terms of usage ranging from some significant use to extensive use for various modes/applications. Four hundred fifty schools use computers to some extent for computer literacy, while 279 use them extensively for this purpose. Three hundred ninety-nine schools use them to some extent and 225 use them extensively for enrichment. Three hundred ninety-two schools use computers for basic skills instruction of which 201 use computers extensively for this purpose.

Table 30. Extent of Use of Computers for Instruction

Instructional Use	Number of Schools Respond.	Number of Schools Making Significant Use	Number of Schools Making Extensive Use	Percent of Responding Schools Making Extensive Use	Weighted Scale Value Of Responses: 1: Not Used 5: Most Used
Computer Literacy	524	450	279	53.3%	3.5/5.0
Enrichment	473	399	225	47.6%	3.3/5.0
Basic Skills	502	392	201	40.0%	3.0/5.0
Gifted & Talented	438	305	170	38.8%	2.9/5.0
Compensatory Remedial	457	339	170	37.2%	2.9/5.0
Mastery	348	187	87	24.9%	2.3/5.0
Guidance/Career Information	359	126	61	16.9%	1.9/5.0
Education of the Handicapped	349	132	39	11.1%	1.8/5.0

School Survey

19. Indicate the extent to which computers are used for various types of specific instructional modes/applications.

This question dealt with the extent to which computers were being used for various types of instructional modes or applications such as tutorial, simulation or word processing. The leading modes of computer instruction were instructional games: 436 making some significant use with 213 using this mode extensively; computer literacy: 370 schools making some significant use, 185 schools making extensive use; and tutorial: 406 schools making some significant use, 179 schools making extensive use. By the criterion of number and percent of responding schools making extensive use of the various modes, teaching computer programming ranked as the second most used mode. (Due to a survey design oversight, "drill and practice" was left off the choices for this question. This mode would have likely ranked number one or two in terms of greatest use.)

Table 31. Use of Computers for Instructional Modes/Applications

Instructional Mode/ Application	Number of Schools Responding	Number of Schools Making Some Significant Use	Number of Schools Making Extensive Use	Percent of Responding Schools Making Extensive Use	Weighted Scale Value of Responses 1: Not Used 5: Most Used
Instructional Games	574	436	213	37.1	3.0/5.0
Computer Literacy	563	370	185	32.9	2.7/5.0
Tutorial	588	406	179	30.5	2.7/5.0
Teaching Computer Programming	540	321	182	33.8	2.6/5.0
Problem Solving	557	372	153	27.5	2.6/5.0
Word Processing	493	208	90	18.2	2.0/5.0
Simulation	481	198	56	11.7	1.8/5.0
Career Selection	442	96	37	8.4	1.5/5.0

District and School Surveys

16, 21. Is your use of computers sufficiently advanced that you would welcome educators from other school districts for a review of your program?

One hundred seven schools and 15 school districts have computer use sufficiently advanced that they welcome visiting educators from other districts to review their programs. This represents 16.3 percent of the school districts and 9.5 percent of the schools out of the total in the state.

School Survey

20. Indicate the extent to which computers are used for computer management of instruction (CMI):

CMI is apparently not yet a significant use of computers. Two hundred four schools use computers for CMI purposes and 52, or 8.7 percent of responding schools, use them extensively for this purpose.

School Survey

23. Indicate whether or not your school uses parent or other voluntary assistance for computer instruction.

One hundred seventeen schools, or 15.5 percent of schools with computers, use volunteer assistance to assist teachers in using computers for instruction.

APPENDICES

Appendix A. Number of Computers Statewide by Computer Brand and Model in School District Administration Offices.

Apple II	2
Apple II Plus	22
Apple IIE	142
Apple III	3
Apple Lisa	1
Burroughs B96	1
Commodore Super-Pet	1
Commodore Vic 20	1
Commodore 64	6
Digital Dec Writer	2
Digital PDP 11/2	1
Digital PDP 11/3	1
IBM Displaywriter	1
IBM PC	14
IBM 174	1
IBM 34	6
IBM 36	1
IBM 5100	1
IBM 5280	1
IBM 5285	1
Monroe OC 8820	1
NCR I-9020	2
NCR 8130	1
NCR 8230	1
Sony SMC-70	1
Televideo 803	1
TI-99/4A	26
TRS-80 Model I	1
TRS-80 Model II	9
TRS-80 Model III	3
TRS-80 Model IV	67
Zenith 89	1
	323

Appendix B. Number of Computers Statewide by Computer Brand and Model in Schools.

BRAND OF COMPUTER	NUMBER OF UNITS
Adam (Coleco)	1
Apple II	168
Apple II Plus	301
Apple IIe	1,362
Apple III	2
Atari 1200 XL	9
Atari 400	90
Atari 600 XL	20
Atari 800 XL	55
Burroughs 9500	1
CCC SLS-1	95
CCC 17	1
Commodore Pet	37
Commodore Super-Pet	21
Commodore Vic 20	91
Commodore 64	194
Digital Dec Writer	14
Digital Vax	1
Franklin Ace 1000	23
Franklin Ace 1200	3
Hayes	2
IBM Displaywriter	3
IBM PC	55
IBM PC-XT	1
IBM 32	2
IBM 34	32
IBM 3742	14
IBM 5100	2
IBM 5282	2
IBM 5286	2
Lanier EZ-I	4
Mattel TLC	1
Monroe EC 8800	1
Monroe OC 8820	31
Olympia EX 100	1
Sony SMC-70	12
Televideo	1
Terak 8510/A	4
TI-Silent 700	1
TI-99/4A	481
Timex Sinclair 1000	5
TRS-80 Color Computer	101
TRS-80 Model I	66
TRS-80 Model II	199
TRS-80 Model III	374
TRS-80 Model IV	166
Victor 9000	2
	4,054

Appendix C. Number of Computers for Elementary Schools Statewide by Brand and Model.

Adam (Coleco)	1
Apple II	44
Apple II Plus	110
Apple IIE	658
Atari 1200XL	7
Atari 400	89
Atari 600XL	20
Atari 800 XL	48
CCC SLS-1	95
CCC 17	1
Commodore Vic 20	51
Commodore 64	137
Franklin Ace 100	10
Hayes	2
IBM PC	5
Mattel TLC	1
Sony SMC-70	8
Televideo TS-802	1
TI-99/4A	386
Timex Sinclair 1	1
TRS-80 Color	45
TRS-80 Model I	15
TRS-80 Model II	70
TRS-80 Model III	109
TRS-80 Model IV	14
	1,928

Appendix D. Number of Computers in Secondary Schools Statewide by Brand and Model:

Apple II	124
Apple II Plus	191
Apple IIE	700
Apple III	2
Atari 1200XL	2
Atari 400	1
Atari 800XL	7
Burroughs 9500	1
Commodore Pet	37
Commodore S-Pet	21
Commodore Vic 20	40
Commodore 64	57
Digital Dec Writer	14
Digital VAX	1
Franklin Ace 100	13
Franklin Ace 120	3
IBM Displaywriter	3
IBM PC	50
IBM PC-XT	1
IBM 32	2
IBM 34	32
IBM 3742	14
IBM 5100	2
IBM 5282	2
IBM 5286	2
Lanier EZ-1	4
Monroe EC 8800	1
Monroe OC 8820	31
Olympia EX 100	1
Sony SMC-70	4
Terak 8510/A	4
TI-Silent 700	1
TI-99/4A	95
Timex Sinclair 1	4
TRS-80 Color	56
TRS-80 Model I	51
TRS-80 Model II	129
TRS-80 Model III	265
TRS-80 Model IV	152
Victor 9000	2
	2,122

School Survey
Appendix E. Name of Persons Giving Schools Consultant Assistance in Computer Education (School Survey Form: Question 22)

Mrs. Lee Murphy
Math Supervisor
Abbeville School Dist. 60
Box 520
Abbeville, SC 29620

Doug McCluskey
Curriculum Development
Aiken School Dist.
P. O. Drawer 1137
Aiken, SC 29801

Eddie Watkins, Principal
N. Augusta Elem. School
701 Georgia Avenue
N. Augusta, SC 29841

Sharon Foret
Curriculum Development
Aiken School Dist.
P. O. Drawer 1137
Aiken, SC 29801

Norman Woodward
Midland Valley High School
PO Box 500
Langley, SC 29834

W. T. Besson
Teacher
N. Augusta Sr. High School
Knobcone Avenue
N. Augusta, SC 29841

Dr. J. I. Green
Aiken County School Dist.
Supt. of Instruction
Drawer 1137
Aiken, SC 29801

Bill Eaves, Asst. Principal
Belton-Honea Path High School
Rt. 2
Honea Path, SC 29654

Bill Scott
Library Services
Belton- Honea Path High School
Rt. 2
Honea Path, SC 29654

Johnnie Brantley
Media Supervisor
P. O. Box 439
Anderson, SC 29621

Mrs. Julia Askley
Librarian
Homeland Park Elementary
3519 Wilmot St.
Anderson, SC 29624

Ms. Patricia Spaid
Science Teacher
McDuffie High School
1225 S. McDuffie
Anderson, SC 29621

Mrs. Jamie Jackson
Teacher
Southwood Jr. High
1110 Southwood St.
Anderson, SC 29624

Dr. William Chaiken
Anderson Dist. 5
Asst. Supervisor for Instruction
Box 439
Anderson, SC 29622

Carol Coombs
Math Teacher
Battery Creek High School
Burton, SC 29902

Herman Gaither
Budget Director
Beaufort County Schools
P. O. Box 309
Beaufort, SC 29902

Vera Smyth
Math Coordinator
Berkeley County Schools
P O Box 608
Moncks Corner, SC 29461

Cheryl Etheridge
Math Consultant
Berkeley County Schools
P. O Box 608
Moncks Corner, SC 29461

Elaine Baxter
Sedgefield Middle School
Charles Gibson Blvd.
Goose Creek, SC 29445

Mr. Parter
Teacher Hanahan High School
6015 Murray Ave.
Hanahan, SC 29406

Nicke Gaspers, Principal
Macedonia Middle School
Rt. 3,
Moncks Corner, SC 29461

Griffin Miller
Principal
Guinyard Elem.
Park St.
St. Matthews, SC 29135

Pat Spaulding
Computer Consultant
Charleston County Schools
3 Chisolm St.
Charleston, SC 29403

Bettye Purvis
Burke High School
207 President St.
Charleston, SC 29403

Clarence Sims
Math Consultant
Charleston County Schools
3 Chisolm St.
Charleston, SC 29403

Bill Stevens
Math Consultant
3 Chisolm St.
Charleston, SC 29403

Bonnie Hearn
Language Arts Consultant
3 Chisolm St.
Charleston, SC 29403

Mrs. Loretta Veal
Library Specialist
Rivers Middle School
1002 King Street
Charleston, SC 29403

Peggy Hanna
Media Director
Charleston County Schools
3 Chisolm St.
Charleston, SC 29403

Joan Anderson
Vocational Consultant
Charleston County Schools
3 Chisolm St.
Charleston, SC 29403

George Spain
Federal Programs
3 Chisolm Street
Charleston, SC 29403

Martha Eason
Math Consultant
3 Chisolm St.
Charleston, SC 29403

Barbara Hess
Consultant
3 Chisolm St.
Charleston, SC 29403

Dr. Louise Smith
Director of Math
3 Chisolm St.
Charleston, SC 29403

Mrs. Barbara Dilligard
The Center
3 Chisolm St.
Charleston, SC 29403

Sharon Mims
Consultant
3 Chisolm St.
Charleston, SC 29403

Mrs. Melle P. Wood
Staff Development Director
Cherokee County Schools
Box 460
Gaffney, SC 29340

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Instructional Services
Chester County Schools
121 Columbia St.
Chester, SC 29706

Mrs. Margaret Britton
Coordinator of Instruction
Chester County Schools
121 Columbia St.
Chester, SC 29706

John W. Wagnon
Federal Programs Coordinator
Chesterfield Dist. Office
141 Main St.
Chesterfield, SC 29709

Larry Heath
Math Supervisor
Chester District Office
121 Columbia St.
Chester, SC 29706

Allen Teal
Assistant Principal
Long Jr. High
Cheraw, SC 29520

Johnny Wallace
Math Teacher
Manning High School
P O Box 399
Manning, SC 29102

Charles Gale, Counselor
Colleton AVC
525 Recold Rd.
Walterboro, SC 29488

Betty Beach
Instructional Supervisor
Colleton Dist. Office
P. O. Drawer 170
Walterboro, SC 29488

Diane Winburn
Data Coordinator
Cheraw High School
Cheraw, SC 29520

John M. Swann
Math Coordinator
Alternative Program
102 Park St.
Darlington, SC 29532

Edna Earle Poyner
Director of Instruction
Darlington County Schools
Room 304 Courthouse
Darlington, SC 29532

Diane Knotts
Math Teacher
Lamar High School
P O Box 515
Lamar, SC 29059

John Seagers
Pee Dee Center
Dargan Street
Florence, SC 29501

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Assistant Supt. Fed Programs
Dillon Dist. 3
P O Box 485
Latta, SC 29565

Karl Naugle
Assistant Principal
Newington Elementary
King Charles Circle
Summerville, SC 29483

Tom Pritchard, Director of
Research and Evaluation
319 S. Dargan St.
Florence, SC 29501

Betty McDaniel, Coordinator of Secondary Math
Florence District Office
319 S. Dargan St.
Florence, SC 29501

Henry Lyerly
Fed. Programs Coordinator
Florence Dist. 3
P. O. Box 128
Lake City, SC 29560

Chris Guerrieri
Principal
Lake City Primary School
Blanding St.
Lake City, SC 29560

James Edward Owens
Manager, Data Processing
Horry County District Office
P.O. Drawer 1739
Conway, SC 29526

Johnny L. Savid
Math Coordinator
Georgetown District Office
P O Box 720
Georgetown, SC 29442

Julius Green, Teacher
Beck Middle School
2018 Church St.
Georgetown, SC 29440

Dr. Jay Casbon
Principal
Duncan Chapel School
200 Duncan Chapel Rd.
Greenville, SC 29609

Eloise Rudy
Math Consultant
Greenville District Office
Box 2848
Greenville, SC 29602

Jeanne Perkinson, Teacher
Wade Hampton High School
100 Pine Knoll Rd.
Greenville, SC 29609

Mary Woods, Principal
Bryson Elementary School
Rt. 2, Howard St.
Simpsonville, SC 29681

Joe M. Forrester
Data Processing Manager
Greenville School District
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Greenville, SC 29602

Dr. Alexia Latimer
Math Dept. Head
Eastside High School
Rt. 4,
Taylors, SC 29687

Bonnie Arrington
Teacher
Hughes Middle School
122 Deoyler Ave.
Greenville, SC 29605

Miss E. Ann Shaver
Consultant, Media Services
Greenville School District
Box 2848
Greenville, SC 29602

Judy James
Consultant
Laurel Creek Elem.
502 Boyd Dr.
Simpsonville, SC 29681

Mary Skelton
Media Specialist
Duncan Chapel Elem. School
200 Duncan Chapel Rd.
Greenville, SC 29609

Boris Bauer
Librarian
Berea High School
515 Berea Drive
Greenville, SC 29611

Laura Ettlers, Teacher
Northwood Middle School
710 Ikes Rd.
Taylors, SC 29687

Stephen Crapps, Asst. Principal
Sara Collins Elem. School
1200 Parkins Mill Rd.
Greenville, SC 29607

David Heizer
Principal
Duke St. Elem. School
1001 Duke St.
Greer, SC 29651

Pam Pritchett
Media Specialist
Gateway Elementary
Rt. 5
Travelers Rest, SC 29690

Barbara Turner
Teacher
Pelham Rd. Elem.
All Star Way
Greenville, SC 29615

Kevin Hawkins, Teacher for Hearing Handicapped
Sara Collins Elem. School
1200 Parkins Mill Rd.
Greenville, SC 29607

Robert Quackenbush
Special Ed. Instructor
Woodmont Middle School
Rt. 2, box 289
Piedmont, SC 29673

Hugh Atkins, ETV Consultant
Greenville County Schools
Box 2848
Greenville, SC 29602

Elaine Paine
Media Specialist
Taylor Elementary School
809 Reid School Rd.
Taylors, SC 29687

Michael Farmer
Science Instructors
Riverside High School
Rt. 8, Suber Rd.
Greer, SC 29651

Pat Vahjen
Teacher
West Hodges School
Box 145
Hodges, SC 29653

Libby Inabinet
Teacher
Conway Elem. School
304 12th Ave.
Conway, SC 29526

Terry G. Chandler, Director
Elem./Middle School Education
Horry County Schools
P O Drawer 1739
Conway, SC 29526

Laura Blanchard
Media Services Coordinator
Horry County Schools
P O Drawer 1739
Conway, SC 29526

Pam Barnhill
Computer Science Instructor
N. Mrytle Beach Elem/Middle Sch.
Rt. 2, Box 48
Myrtle Beach, SC 29582

David Bell
Librarian
Loris High School
Loris, SC 29569

Dick Garrett
Assistant Principal
Socastee High School
Hwy. 707, Box 90
Myrtle Beach, SC 29577

Daphne Clantz
Computer Teacher
Lugoff High School
P. O. Box 278
Lugoff, SC 29078

Mrs. Jan Collins, Instructor
Lancaster Voc. School
Lancaster, SC 29720

Jean Redfearn
Computer Teacher
Camden High School
Laurens St.
Camden, SC 29020

Russell Burns
Laurens District Office
P O Box 388
Laurens, SC 29360

Sarah Smith, Asst. Principal
Laurens High School
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Laurens, SC 29360

Randall Burns, Director
Programs for the Handicapped
Lee County Schools
P O Box 507
Bishopville, SC 29010

Donna Darby, Consultant
Gifted and Talented
Lexington Dist. 2
715 Ninth St.
West Columbia, SC 29169

Steve Patterson, Principal
Congaree Elem. School
1221 Ramblin Rd.
West Columbia, SC 29169

Gwen Bunch, Teacher
Airport High School
1315 Boston Avenue
West Columbia, SC 29169

Paul Odomerok
Teacher
Irmo High School
6671 St. Andrews Rd.
Columbia, SC 29566

Dr. Esther Bass
Asst. Principal
Brookland-Cayce High School
1300 State St.
Cayce, SC 29033

Marilyn Allen, Librarian
Batesburg-Leesville High School
920 Summerland Ave.
Batesburg, SC 29006

Aleda Anderson
Computer Coordinator
Lexington Dist. 5
Box 938
Ballentine,SC 29002

James A. Blake
Asst. Supt. for Administration
Marion District 1
616 Northside Avenue
Marion, SC 29571

G. Lynn Moore
Assistant Principal
Bennettsville High School
Bennettsville, SC 29512

Ms. Jenny Parker
Director of Instruction
Marlboro School District
122 Broad St.
Bennettsville, SC 29512

Dr. Robert Hollis
Director of Instruction
Newberry County Schools
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Newberry, SC 29108

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Oconee County School Dist.
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Walhalla, SC 29691

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Principal
Salem Elementary School
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Salem, SC 29676

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Teacher
Edisto High Schol
Cordova, SC 29039

A. Mason Turner
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Orangeburg-Wilkinson High Schoo
919 Bennett Ave.
Orangeburg, SC 29115

Gerald E. Runager
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1441 Marshall Ave.
Orangeburg, SC 29115

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Rt. 8, Box 475
Easley, SC 29640

Mrs. Patricia Smith
Coordinator of Mathematics
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Easley, SC 29640

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Central, SC 29630

Paula Grookett
Media Director
Richland School Dist. 1
1616 Richland St.
Columbia, SC 29201

Jim Hockman
Coordinating Teacher
Perry Middle School
2600 Barhamville Rd.
Columbia, Sc 29204

Dr. Lonnie Bell
Richland #2
Curriculum Coordinator
6831 Brookfield Rd.
Columbia, SC 29206

Robert Grookett, Principal
Burnside Elem. School
Patterson Rd.
Columbia, SC 29209

Sharon Durham
Librarian
Windsor Elementary
2839 Hopkins Rd.
Columbia, SC 29206

Tim Coates
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Campobello-Gramling Elem.
Box 158
Campobello, SC 29322

Ron Roberson
Teacher
New Prospect School
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Inman, SC 29349

Joanne Thomas, Librarian
Mayo Elem. School
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Mrs. Ann White, Director
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Spartanburg Dist. 3
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Susan Keller
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Woodruff Elem.
Rt. 2
Woodruff, SC 29388

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Teacher
Mayo Elem. School
Box 128
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1491 Greenville Hwy
Spartanburg, SC 29301

Wanda Clayton, Teacher
Startex Elem.
Startex, SC 29377

Mr. Bob Pettis
Principal
Woodland Heights Elem.
1216 Reidville Rd.
Spartanburg, SC 29301

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Spartanburg Dist. 7
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Spartanburg, SC 29304

Suzanne McDaniel
Social Studies Consultant
Spartanburg Dist. 7
P. O. Box 970
Spartanburg, SC 29304

John Davis
Teacher
Spartanburg High School
Dupre St.
Spartanburg, SC 29302

Jay Jeter
Teacher
Spartanburg High School
DuPre St.
Spartanburg, SC 29302

Larry Williams
District Media Specialist
Sumter Dist. 17
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Sumter, SC 29150

Dr. Rachel Bickley
Admin. Asst. PAC & EVAL.
Sumter District 2
492 N. Guignard Dr.
Sumter, SC 29150

Clyde Hudson
Math Teacher
Mayewood High School
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Ronald P. Crisp
Teacher
Union High School
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BEST COPY AVAILABLE

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Nita Porter
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Rock Hill, SC 29730

Brenda Romanoff
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